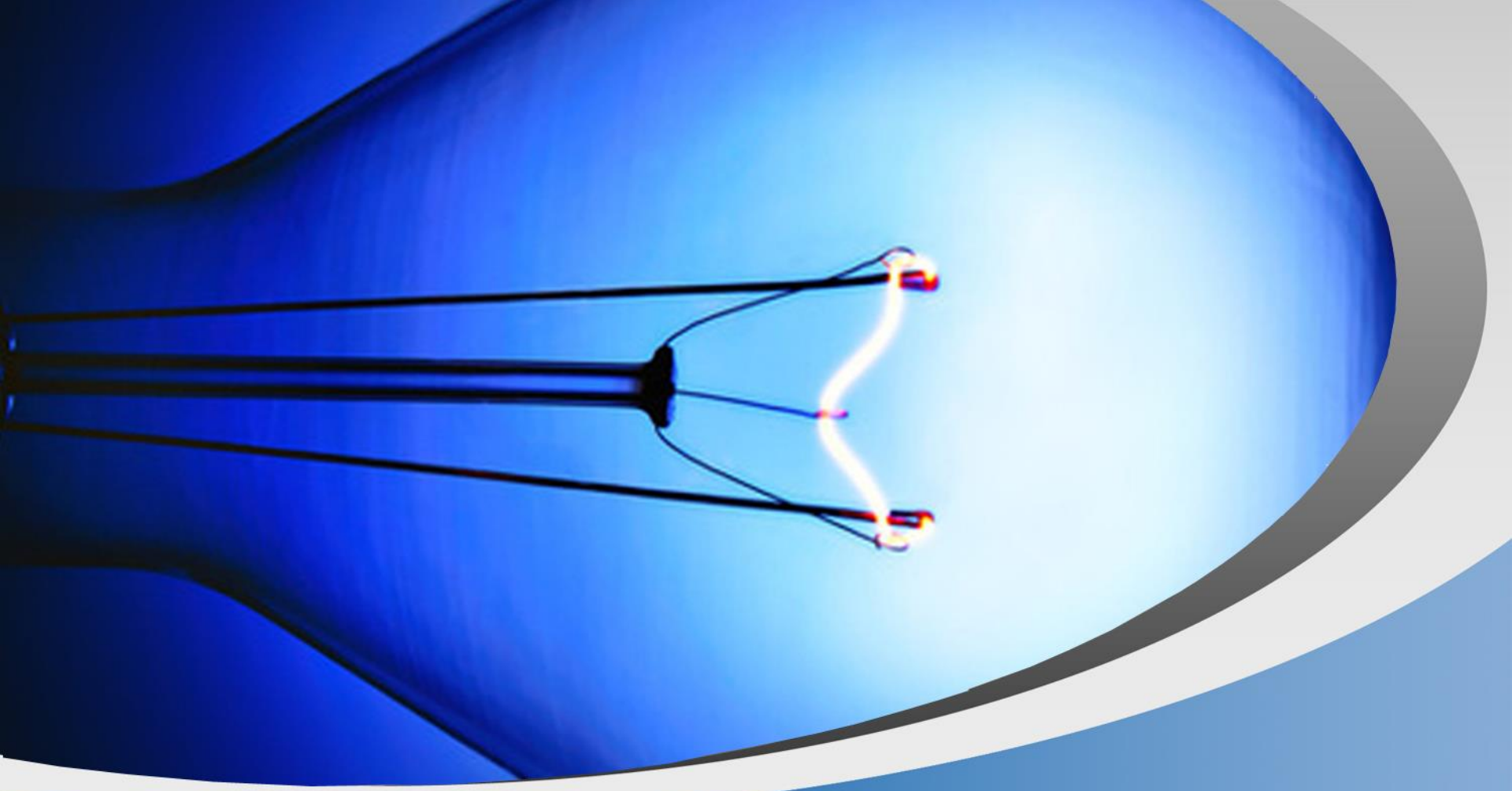

SystemC CCI WG
Parameter Naming Example

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Parameter Naming

- **Parameter names**
  - User creating parameters should use parameter names matching the SystemC naming rules.
  - There is possibility to chose the names of a parameter fully free of the hierarchical position of the owning module. Even within a module it is possible to choose an arbitrary name and prevent the parameter from attaching the name prefix of the owning module. To do this use set the constructor cci_name_type argument to CCI_ABSOLUTE_NAME (the default is CCI_RELATIVE_NAME).
- **Top Level Parameters**
  - Parameters are allowed to be instantiated at top – level (outside the SystemC hierarchy), e.g., in sc_main. Here the same parameter naming rules are applied as for non top – level parameters.
- **Parameter name collisions**
  - Since each parameter name is unique in the database, it is an error to create more than one parameter with identical names. This could happen when setting top – level parameter names manually. During creation of a parameter with a colliding name, there will be an sc_warning and a unique name will be assigned.
  - The parameter name cannot be identical to an SystemC module hierarchy name. A unique name will be assigned to the parameter when there is already such name in SystemC module hierarchy. The converse is also true (an sc_object cannot take the name of an already registered parameter) but only for SystemC versions 2.3.2+ where the central name registry exists; this is shown in the separate golden logfiles for this example.

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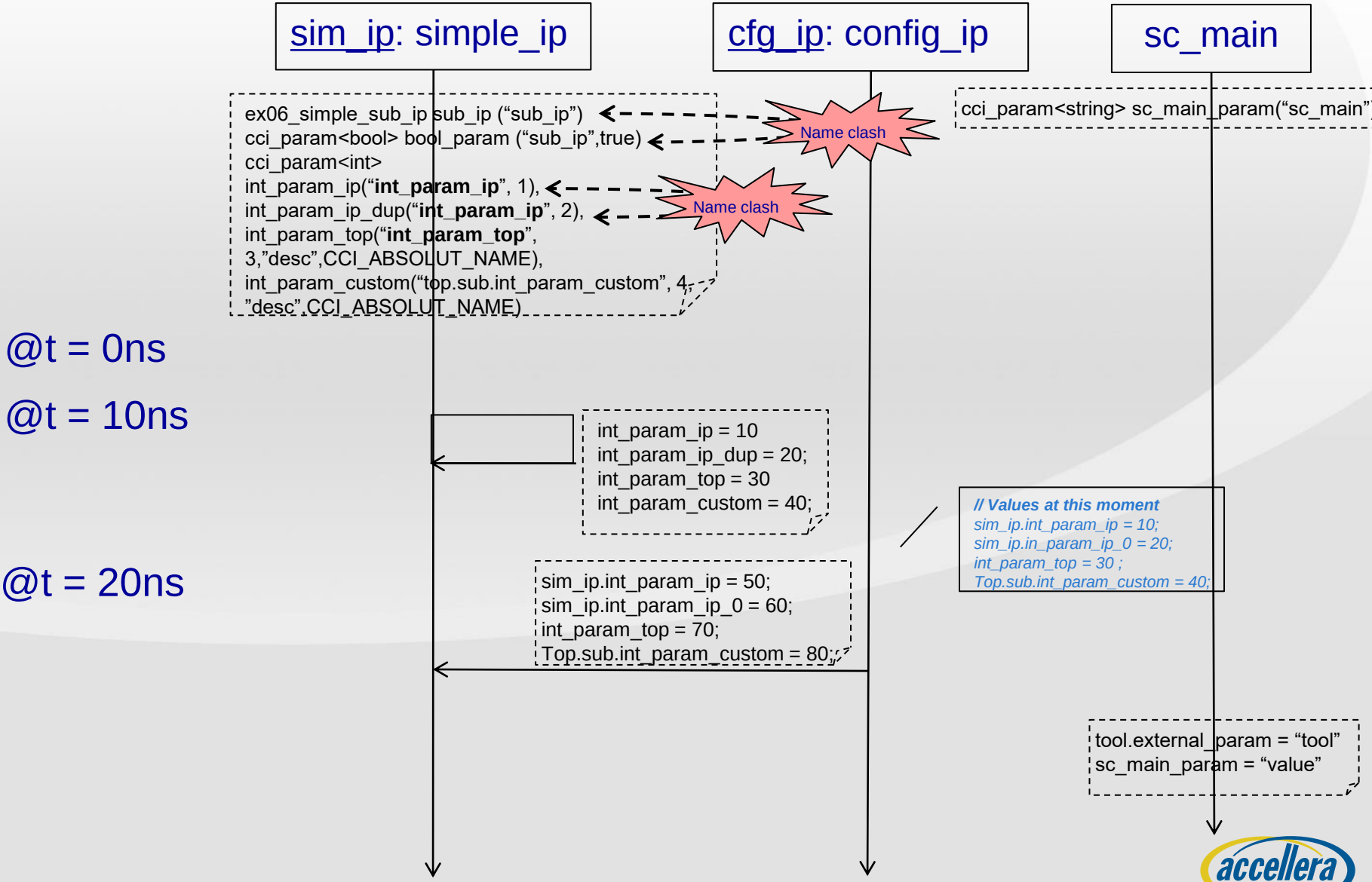
Example Sequence Diagram



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Expected Output (ex06_Parameter_Naming.log)

```
SystemC Simulation
Warning: (W534) name already exists: sim_ip.sub_ip (sc_module)
In file: <removed by verify.pl>
Warning: /Accellera/CCI/cci_name_gen/gen_unique_name: sim_ip.sub_ip is already used in the SystemC hierarchy, using sim_ip.sub_ip_0 instead
In file: <removed by verify.pl>
Warning: (W534) name already exists: sim_ip.int_param_ip (external name)
In file: <removed by verify.pl>
Warning: /Accellera/CCI/cci_name_gen/gen_unique_name: sim_ip.int_param_ip is already used in the SystemC hierarchy, using sim_ip.int_param_ip_0 instead
In file: <removed by verify.pl>
Info: sim_ip: @0 s, Ctor: Name of bool_param is sim_ip.sub_ip_0
Info: sim_ip: @0 s, Ctor: Default value of sim_ip.int_param_ip is 1
Info: sim_ip: @0 s, Ctor: Default value of sim_ip.int_param_ip_0 is 2
Info: sim_ip: @0 s, Ctor: Default value of int_param_top is 3
Info: sim_ip: @0 s, Ctor: Default value of top.sub.int_param_custom is 4
Info: sc_main: Begin Simulation.
```


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Cont'd

```
Info: sim_ip: @10 ns, execute: Current value of sim_ip.int_param_ip is 1
Info: sim_ip: @10 ns, execute: Current value of sim_ip.int_param_ip_0 is 2
Info: sim_ip: @10 ns, execute: Current value of int_param_top is 3
Info: sim_ip: @10 ns, execute: Current value of top.sub.int_param_custom is 4
Info: sim_ip: @10 ns, execute: Set int_param_ip = 10
Info: sim_ip: @10 ns, execute: Set int_param_ip_dup = 20
Info: sim_ip: @10 ns, execute: Set int_param_top = 30
Info: sim_ip: @10 ns, execute: Set int_param_custom = 40
Info: sim_ip: @10 ns, execute: Current value of sim_ip.int_param_ip is 10
Info: sim_ip: @10 ns, execute: Current value of sim_ip.int_param_ip_0 is 20
Info: sim_ip: @10 ns, execute: Current value of int_param_top is 30
Info: sim_ip: @10 ns, execute: Current value of top.sub.int_param_custom is 40
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Current value of sim_ip.int_param_ip is 10
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Set value of sim_ip.int_param_ip to 50
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Current value of sim_ip.int_param_ip is 50
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Current value of sim_ip.int_param_ip_0 is 20
```


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Cont'd

```
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Set value of sim_ip.int_param_ip_0 to 60
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Current value of sim_ip.int_param_ip_0 is 60
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Current value of int_param_top is 30
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Set value of int_param_top to 70
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Current value of int_param_top is 70
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Current value of top.sub.int_param_custom is 40
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Set value of top.sub.int_param_custom to 80
Info: cfg_ip: @20 ns, execute: [EXTERNAL] Current value of top.sub.int_param_custom is 80
Info: sc_main: End Simulation.
List of parameters:
   int_param_top
   sc_main_param
   sim_ip.int_param_ip
   sim_ip.int_param_ip_0
   sim_ip.sub_ip_0
   tool.external_param
   top.sub.int_param_custom
```


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Cont’d

```
Info: sc_main: Current value of tool.external_param is 10
Info: sc_main: Originator of tool.external_param handle is sc_main
Info: sc_main: Originator of tool.external_param is tool
Info: sc_main: Current value of sc_main_param is "value"
Info: sc_main: Originator of sc_main_param handle is sc_main
Info: sc_main: Originator of sc_main_param is sc_main
Info: sim_ip: Dtor: Current value of sim_ip.int_param_ip is 50
Info: sim_ip: Dtor: Current value of sim_ip.int_param_ip_0 is 60
Info: sim_ip: Dtor: Current value of int_param_top is 70
Info: sim_ip: Dtor: Current value of top.sub.int_param_custom is 80
```


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